



Illinois Department of Transportation

Memorandum

To: DIRECTORS, DEPUTY DIRECTORS, AND BUREAU CHIEFS
From: Dianna L. Taylor
Bureau Chief of Personnel Management
Subject: Technical Vacancy
Date: August 25, 2016

Attached are the Position Summary Sheet and Position Description for the vacant technical position listed below. Please post this vacancy announcement August 26, 2016 in the designated areas.

The deadline for applicants to submit their names for consideration is **4:30 p.m.** on **Friday, September 9, 2016**. Applicants will not be accepted after that time and date.

NOTE: A copy of each applicant's ACTIVE Illinois Professional Engineer License must accompany application for this position. Please be advised that if a high volume of applications are received, the applications may be screened to establish a smaller pool of applicants for interview. The screening will be based on the information contained in the application.

All applicants will receive a position description for the position they are applying for. If you have any questions, please contact Jennifer Sunderland or Denise Hamilton at 217/782-5594.

CE V

Geotechnical Engineer
Region 1/District 1/Materials
Highways Project Implementation
Schaumburg

Attachments
41055

Technical Applications (PM 1080) **must be received** by the Bureau of Personnel Management, Room 113, 2300 South Dirksen Parkway, Springfield, IL 62764 (Fax# 217/557-3134) or emailed to DOT.CO.BPM.EmploymentApplications@Illinois.gov by **Friday, September 9, 2016**, 4:30 p.m. Please include address, daytime phone and position for which applying if not already listed on application. Applicants will be notified in writing to schedule interviews.

NOTE: A copy of each applicant's ACTIVE Illinois Professional Engineer License must accompany application for this position. Please be advised that if a high volume of applications are received, the applications may be screened to establish a smaller pool of applicants for interview. The screening will be based on the information contained in the application.



Illinois Department of Transportation

An Equal Opportunity Employer

Position Summary Sheet

Classification: Civil Engineer V

Salary Range: \$6,315 - \$10,210

Position Title: Geotechnical Engineer

Union Position: ☒ Yes ☐ No

Position Number: PW115 23-51-702-00-01

IPR#: 41055

Office/Central Bureau/District/Work Address:

Office of Highways Project Implementation/Region One/District One/Bureau of Materials/201 W. Center Ct., Schaumburg IL

Description Of Duties:

This position is accountable for planning and directing the appropriate applications of soil mechanics principles to the analysis, evaluation, and inspection of soils in the district. The position is also accountable for the supervision and direction of personnel engaged in the geotechnical activities of the district as they relate to the planning, design, construction, and maintenance of the transportation system.

Special Qualifications:

Required:

- A current Illinois Professional Engineer license
- A valid driver's license
- Districtwide and statewide travel with occasional overnight stays

Desired:

- Successful completion of the STTP/S-33 – Geotechnical Field Testing and Inspection course
- Nine years' experience in civil engineering of which at least five years should be in the specific area of roadway and structural design, three years of which should have been supervising engineering functions
- Undergraduate level coursework in geotechnical area
- Knowledge of geotechnical products, soil testing procedures, and subsurface drilling and evaluation
- Strong management and organizational skills
- Strong oral and written communication skills

Shift/Remarks:

8:00 am-4:15 pm / Monday - Friday (45 minute lunch)

***THIS POSITION IS COVERED UNDER THE REVOLVING DOOR PROHIBITION (RDP) POLICY.**

**ILLINOIS DEPARTMENT OF TRANSPORTATION
POSITION DESCRIPTION**

DATE:	April, 2016	POSITION:	Geotechnical Engineer
APPROVED BY:	George Houston, P.E.	OFFICE/DIVISION:	OHPI/District One/Bureau of Materials
CODE:	PW115-23-51-702-00-01	REPORTS TO:	District Materials Engineer

Position Purpose

This position is accountable for planning and directing the appropriate application of soil mechanics principles to the inspection and analysis of District soils. The application of PAM and CAM for sub base and base course construction, and for formulating documented recommendations and appropriate solutions for soils related design, construction, and operations of roadways and structures on both state and local systems.

Dimensions

Subordinate Personnel	Direct 3-Indirect 12
Annual Value of Geotechnical Items	\$150 M-250 M
Number of Soil Reports Annually	50-100
Value of Geotechnical Equipment	\$500,000

Nature and Scope

This position reports to the District Materials Engineer as do the Mixtures Control Engineer, Physical Test Engineer, Quality Assurance Supervisor and an Executive Secretary. Reporting to this position are a Foundation and Soils Boring Supervisor, Field Engineering Supervisor, Soils Analysis Engineering Supervisor, Soils Proportioning Coordinator and the Soils Engineering Technician.

This position operates in an environment characterized by extreme variances in indigenous soil types and conditions, including peat bogs, and glacial deposits. The District continues to experience a decline in right of way availability due to intense land development. This situation has resulted in the increased use of man-made fills and the need to design structures that are close to building foundations.

Typical problems encountered by this position include recommending alternative methods of design and construction which consider geologically adverse conditions; evaluating the acceptability of substitute materials and embankment design and construction; evaluating and making on the spot, often irreversible determinations concerning the acceptability and sustainability of subgrade and embankment corrective actions, sub-base and base course materials including proper application of PAM and CAM to specific projects; and determining the scope and technical variety of subsoils investigations performed through contractual agreement.

The greatest challenges of this position are ensuring the proper application of PAM and CAM and developing appropriate solutions to soils problems encountered in the preliminary planning, design, construction, and operation of the area streets and highways.

The incumbent personally determines the suitability of soil conditions on project sites, taking into consideration the economic, ecological, and anticipated traffic demands of proposed projects; develops and submits to the Bureaus of Programming and Design soil behavior parameters and pavement design utilizing the result of pavement evaluations, subsurface investigations, and laboratory testing results. The incumbent plans and directs in-house and contractual sub-surface investigations; and directs the review and analysis of all District and Consultant soils work.

The incumbent directs the preparation, evaluation and revision of reports as needed. The incumbent directs Consultants in proper procedures of reporting on contractual subsurface investigations and negotiates consultant agreements. The incumbent is also required to negotiate man-hours and unit prices for all Consultant contracts used to assist in performing subsurface drilling and investigations.

The incumbent analyzes and approves soil-structure interaction forecasts and develops District policies and procedures governing such interactions; designs and recommends subsurface drainage systems; prepares special provisions detailing solutions to unique soils problems encountered which indicate the material requirements and construction techniques and sequences; approves materials used on embankments and subgrades; approves PAM and CAM proportioning and develops special provisions covering their alternate selection; develops solutions to overcome existing soil failures; acts as advisor to District bureaus, local agencies, contractors, and consultants on soil problems, directs and evaluates subordinate performance, counsels and motivates employees, provides for safe working conditions; assists in budget preparation; ensures geotechnical records are properly managed and retained; recommends training designed to improve performance, and recommends promotions and salary adjustments.

The incumbent accomplishes accountabilities through the following staff:

Foundation and Soils Boring Supervisor-one, with a staff of six, are accountable for obtaining and reporting all foundation and soils boring information and test data necessary for the design and construction of all new and rehabilitated structures and roadway.

Soils Analysis Engineering Supervisor- one, with a staff of five, is accountable for the evaluation and review of soils related information and for the development and recommendation of solutions to soils related problems.

Field Engineering Supervisor-one, with a staff of five, is accountable for scheduling and performing all District testing, inspection, and proportioning of embankment, subgrade, base and sub-base materials (including CAM and PAM), and conducting embankment, subgrade, top soil and foundation investigations.

Soils Proportioning Coordinator-one, provides supervision and direction of state personnel engaged in proportioning and inspection of stabilized soil materials for highway projects.

Soils Engineering Technician-one, assists in the supervision and direction of state personnel engaged in field testing and inspection of soil and soil stabilized materials for highway projects.

The incumbent is the resident technical expert on soils and soil mechanics. Only the most sensitive areas or those which may heavily impact other operations will be referred to the Bureau Chief. The incumbent works within the acceptable principles of soil mechanics, but is required to exercise considerable independent technical judgment in developing solutions to soils problems encountered in the design, construction, and operation of the highway system. The incumbent will be required to make on-site determinations concerning the suitability of subgrade remedial treatment alternates and sub-base materials. Such decisions are usually irrevocable and greatly influence the quality of the final product.

The incumbent maintains contacts with the District Bureaus of Programming, Permits, Design, Construction, Maintenance, and Local Roads and Streets to ensure the appropriate soil analysis and the development of recommendations that satisfy the project construction and operational demands. The incumbent provides consultation and guidance so local agencies, contractors, and consultants regarding soils problems encountered and the development of appropriate solutions. The incumbent maintains contact with the Central Office and F.H.W.A. personnel to negotiate solutions to unique soils problems and obtain approval of special provisions covering these solutions. In addition, the incumbent coordinates the activities of Geotechnical Consultants. District and statewide travel is required with occasional overnight stay.

The effectiveness of this position is measured by the timely development of appropriate solutions to soil problems that occur where a wide variety of unfavorable soil conditions exist.

Principal Accountabilities

1. Ensures the adequacy of subsoil investigations and laboratory testing procedures to ensure development of appropriate embankment and subgrade design criteria so as to avoid failure.
2. Determines acceptability of substitute materials and sub-base mixes for use in embankment and subgrade design and construction to ensure the quality of the final product is not compromised.
3. Determines pavement suitability for replacement or resurfacing dependent upon the physical characteristics of that pavement
4. Prepares special provisions covering material requirements and construction techniques necessary for the solution of unique soil problems and existing soil failures.
5. Ensures the adequacy of the design of subsurface drainage systems
6. Determines the social, economic, and environmental impact of alternate soil treatments.
7. Assigns, motivates, develops, and evaluates subordinate personnel.
8. Performs duties in compliance with departmental safety rules. Performs all duties in a manner conducive to the fair and equitable treatment of all employees.
9. Performs other duties as assigned.